STIC Search Report
EIC 3700

TO: Chanda Harris
Location: cp2 10d10
Art Unit: 3714
Friday, September 05, 2003

Case Serial Number: 09/934774

From: John Sims
Location: EIC 3700
CP2, 2C08
Phone: 308-4836

john.sims@uspto.gov

Search Notes

Chanda - This search did not produce much in the way of relevant results.

sira
Search and Information
Resources Administration

Access DB# 102359

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Chanda Harris   Examiner # : 77264   Date: 8/25/03

Art Unit: 3714   Phone Number 30 8-8358   Serial Number: 09/934,774

Mail Box and Bldg/Room Location: 10D33/10D10 Results Format Preferred (circle): (PAPER) DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.
****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: System and methods for training a trainee to classify fundamental properties of media entities

Inventors (please provide full names):

Geoffrey Stanfield

Earliest Priority Filing Date: 8/21/01

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Ideas for searches

train$ + (assign$ or classif$) + media

train$ near (assign$ or classify) same media

See Claim 1.

****

3/7/1   (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.

015378345   **Image available**
WPI Acc No: 2003-439283/200341
   Online training method for analyzing music, involves providing
   classification information about fundamental properties and comparing
   value assigned to fundamental properties by trainee with expert assigned
   value
Patent Assignee: MICROSOFT CORP (MICT)
Inventor: BASSMAN E ; STANFIELD G R
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
US 20030041066 A1   20030227 US 2001934774   A   20010821 200341 B

Priority Applications (No Type Date): US 2001934774 A 20010821
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
US 20030041066 A1   16 G06F-007/00

Abstract (Basic): US 20030041066 A1

        NOVELTY - A definitional classification information about rhythm
   and mood, is rendered to the trainee, in order to educate fundamental
   properties. A value is assigned to the fundamental property of the
   media entity such as song, by the trainee. The trainee assigned value
   is compared with the expert assigned value, to determine a group of
   fundamental properties for which trainee is qualified to code values
   for media entities.
        DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the
   following:
        (1) computer readable medium storing online training program;
        (2) computer executable instructions carrying modulated data
   signal;
        (3) training process performing device;
        (4) computing system; and
        (5) music analyzing method.
        USE - For providing training to analyze music.
        ADVANTAGE - Enables to generate uniform classification of media, by
   providing trainee according to expert assigned values.
        DESCRIPTION OF DRAWING(S) - The figure shows a block diagram of
   computer network.
        pp; 16 DwgNo 1/5
Derwent Class: T01; W04
International Patent Class (Main): G06F-007/00

3/3,AB/1
DIALOG(R)File 350:Derwent WPIX

003093100
WPI Acc No: 1981-K3148D/198140
   Teaching laboratory control circuit - uses learner profile processing and
   forecasting units coupled to memory and operational controls respectively
Patent Assignee: KIEV POLY (KIPO)
Inventor: KORNEICHUK V I; PAVLOVSKII V I; SOROKA V N
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
SU 785888	B	19801215				198140	B

Priority Applications (No Type Date): SU 2720662 A 19790202
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
SU 785888	B		3		

Abstract (Basic): SU 785888 B
     A teaching laboratory control circuit uses the learner profile
   process and forecasting units to facilitate the program *planning*
   according to *students* *ability* and *expert* advice. The image
   recognition circuit contain the parameter comparator register and the
   weight coefficients evaluation comprising the counter and zero sensor.
   The forecasting unit contains counters and maximum value discriminator.

     During the operation the controls accumulate the statistical data
   regarding learning speed, psychological and physiological
   characteristics of the students. The data is used to form the learners
   profile in the memory and to predict performance. Coincidence of the
   profile parameter enables further data processing to evaluate the
   students ability. The arrangement allows individual student
   characteristics and expert knowledge to be taken into account.
   Bul.45/7.12.80 (3pp
?

5/3,AB/1

014296003
WPI Acc No: 2002-116706/200216
XRPX Acc No: N02-087186
  ***Learning* from *oral* *material* *prerecorded* by teacher, compares
  several teacher's voices with student's voice using common text based
  features analysis and chooses teacher whose voice matches with student's
  voice**
Patent Assignee: NEWTON KK (NEWT-N)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 2001051580	A	20010223	JP 99224610	A	19990806	200216	B

Priority Applications (No Type Date): JP 99224610 A 19990806
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2001051580	A		4	G09B-005/06	

Abstract (Basic): JP 2001051580 A
Abstract (Basic):

        NOVELTY - Preselected text based vocal recordings of several
    teachers are matched by turns with that of an individual student,
    through a feature extraction-cum-characteristics comparison process.
    The teacher's voice that matches the student's voice, is chosen as the
    vocal recording medium to prepare the oral instruction material that is
    specific to that student.
        USE - Prerecorded oral material based learning, particularly in
    regard to language learning with emphasis on pronunciation is gaining
    currency and is of relevance to other learning areas/techniques as
    well.
        ADVANTAGE - The learning process as a whole can be significantly
    advanced, student matched teacher voice proving quite effective.
        DESCRIPTION OF DRAWING(S) - The figure shows the functional block
    diagram of vocal learning apparatus. (Drawing includes non-English
    language text).
        pp; 4 DwgNo 1/2
?

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TEXT:
EXPERT SYSTEM SHELL

Product:	VP-Expert, version 2.11
Publisher:	Paperback Software
	2830 Ninth Street
	Berkeley, CA 94710
	(415) 644-2116
Hardware:	IBM PC/XT/AT/PS2 or compatible;
	384K RAM; hard drive
	recommended; mouse supported
Software:	MS/PC DOS 2.1 or later
Price:	$249
Copy Protection:	None

VP-Expert is a popular mid-priced expert system shell. What is an expert system shell, and why might you want to use one? An expert system shell provides software tools for developing expert systems, just as a spreadsheet program provides software support for spreadsheets. A shell lets the developer concentrate on the knowledge that is to be included in the expert system without having to write programs to process the rules and present the screen displays.

Expert Systems

Expert systems have captured the public fancy, but they are very structured tools that have only limited areas of application. They have proven to be useful as decision-support systems in areas of knowledge that are characterized by structures, patterns, and rules. Expert systems should find many uses in libraries, because we are in the business of providing knowledge structures to facilitate the storage and retrieval of information. However, expert systems have generally been most useful in small fields of knowledge that have clear borders or limits. Most of the expert systems being developed in libraries are aimed at small-scale tasks such as choosing appropriate reference sources in chemistry, classifying music scores, and selecting an appropriate binding or preservation treatment. These tasks have in common that correct answers exist (on which experts can agree) and that the tasks are too complex and multifaceted to express easily in a list or text.

VP-Expert is a backward-chaining rule-based shell. This is the most prevalent type of expert system. Backward-chaining is most useful when there are a small number of possible outcomes, as in the following examples. Rules are statements in this form:
If x
Then y. For example:
If the chemical you are researching is organic,
Then use Beilstein. VP-Expert rules can also include an Else clause:
Else use Chemical Abstracts.
Features to Assist the Developer

VP-Expert offers several options for getting a knowledge base into the rules. The developer can create rules directly by using the built-in, WordStar-like rule editor or by recording information in an induction table. Induction tables may be created with the VP-Expert editor or may be read from files created by word processors, spreadsheets, or databases. Figure 1 shows an initial version of an induction table to assist staff in

making decisions about handling damaged volumes. The asterisks indicate
information that is not needed to make the decision that is described in
that particular row.

An induction table for a completed expert system would need to have
rows for all of the possible combinations of factors, such as brittle books
with missing pages. It could also have more rows for types of damage and
more columns for decision factors such as availability of duplicate copies.
However, the table illustrates some of the advantages and disadvantages of
induction tables. The table is easy to read, to debug, and to modify. On
the other hand, it is repetitive, and VP-Expert does not allow placing
greater-than and less-than symbols in the table.

I created the table in Figure 1 as part of a WordPerfect text, then
saved the table as an ASCII text file, MEND.TBL. I then converted the table
into an initial version of a working expert system by starting VP-Expert
and selecting the "Induce" command. Here is the first part of the knowledge
base that VP-Expert created from that table:

    ACTIONS
    FIND Treatment
    DISPLAY "The value of Treatment is {Treatment}";
    RULE 0
    IF MATERIAL__Type=Journal AND
    Type__Of__Damage=MissingPages AND
    Brittle=No
    THEN Treatment=Mend;

The result is an expert system that is ready to test, without the
developer having to deal with the structure or syntax of the knowledge
base. The induction feature thus rewards the developer with a testable
product very quickly, and makes it very easy to focus on the content of the
expert system instead of the syntactical details. Testing the expert system
that was generated from the table above quickly showed that the columns for
Pub__Date and Last__Use should be reversed, because the Pub__Date question
need not be asked if Last__Use is "1980__or__later."

    User Interface
An expert system that is generated by the "Induce" command will have
the default user interface, which provides menus of user choices in this
form:

    What is the value of Material__Type?
    Journal Book

As each question is answered (by selecting an item with the arrow
keys, the Enter key, and then the End key) the next question scrolls on to
the screen:

    What is the value of Type__Of__Damage?
    Missing__Pages Broken__Spine

Users may also ask "How" the expert system achieved a particular
result, or "Why" a particular question is being asked. VP-Expert provides
default responses to these queries by displaying the applicable rules. The
default user interface is intended for developers. Most end-users will need
more informative screens.

Once the basic expert system is working properly and is ready for
wider testing, several VP-Expert tools and commands may be used to improve
the user interface to make the expert system clearer and more attractive.
For example, the default "Ask" text in each rule may be edited to present a
more felicitous query:

    What is the material type?
    Journal Book

A "Because" statement included in each rule can provide a tailored
response to a user's "Why" or "How" query. Additional commands are
available to create windows and to set screen colors. These improvements to
the user interface were much needed, and they address one of my major
concerns about version 1.0.

    Graphics

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It's possible to make the user interface even fancier with graphic images, support for the use of a mouse for selecting items, and a limited form of hypertext. One concern I have is that the developer must specify a graphics mode. This is a problem for developers who cannot know what kind of hardware will be running the expert system. Most of the current programs that support graphics (such as painting and drawing programs) will automatically select a video mode to match the hardware and will display images at the best available resolution.

There are a number of graphic images on the examples disk, including gauges (for showing values to the user, or for the user to indicate values with a mouse), buttons (to make selections by clicking the mouse), and fields (for data entry or to display the values of variables). You can't import graphic images from standard painting or drawing programs; you must construct them with a set of primitive drawing tools. The graphic functions seem best suited to the design of forms or control panels rather than free-form images.

Limited Hypertext

This version includes a limited form of hypertext, which has been the hot feature added to programs over the past couple of years. The hypertext feature consists of support for pop-up help screens. This is an appropriate enhancement to the user interface, but VP-Expert includes only this single type of hypertext link. It has not become a hypertext environment comparable to HyperCard, HyperWriter, or even KnowledgePro. The pop-up screens may lead to more screens, giving users only as much information as they need and on only the topics they select. The hypertext feature is available only in the graphics mode. It would be helpful to be able to add hypertext help screens to text-only presentations.

Example Files

The examples disk contains several versions of one expert system with progressively enhanced user interfaces. This set of examples serves as a very good tutorial on the user interface features.

Once the expert system is completed and ready for use, the "Runtime" command also improves the user interface by replacing the underlines that separate words in variable names (for example "Broken__Spine") with spaces.

Runtime Software and License

Most developers will want to block access to the editing commands before putting an expert system out for public use. There is no way to do this with the standard VP-Expert program, but a separate runtime version of the software is available as an extra-cost option. In the past there has been an annual license fee of $300 for use of the runtime software. Recently, the publisher has begun to offer the runtime software and license for a onetime fee of $100 for use of an unlimited number of copies within a single educational institution. These terms are much more suited to the needs of most libraries.

Many users of VP-Expert may never know about the availability or the cost of the runtime software and license, because neither is mentioned in the manual (although they are mentioned in the company's advertisements).

Advanced Features

In addition to being able to induce rules from several types of external files, VP-Expert knowledge bases can read from and write to files in several formats, including spreadsheets, databases, and ASCII text. Menus may be created from the contents of specified ranges or fields of spreadsheet or database files. This means that the items listed on a menu may be revised by editing a spreadsheet or a database, rather than by editing and recompiling the knowledge base of the expert system. Also, VP-Expert programs can alter the content of spreadsheet or database files. This is a very powerful capability for development of intelligent front ends for searching and data entry.

VP-Expert can execute DOS commands and external programs. A new feature is the ability to pass values and variables to external programs. VP-Expert can perform calculations, including floating-point math, and

supports various scientific functions, including absolute values, logs, sines, exponents, and square roots. Confidence factors can be assigned to each rule and each response. If no value is assigned, VP- **Expert   assigns** a **value** of 100.

A new rule type in this version is the "Whenever" rule. The "If/Then" rules are processed in sequence, but the "Whenever" rule watches a consultation and acts whenever certain conditions are true.

Documentation and Support

The documentation for VP-Expert has always been considered a good model. Most of the software's features are explained and illustrated clearly and comprehensively. Examples are first presented in a very simple form and are then elaborated. The result is a comfortable learning curve. The manual and sample programs can serve as an effective tutorial on rule-based expert systems (albeit one that is limited to features of VP-Expert).

The index and table of contents, however, need much improvement. No page numbers are given for chapter subheadings in the table of contents. The index fails to list all of the sections that contain significant amounts of important text on such features as hypertext and the runtime environment.

No telephone number is given in the manual, but there is an address. I found the telephone number in one of the company's advertisements. I had not had problems in using the software, so I called for information about whether I had the current software version, the runtime license, the limits on the size of external spreadsheet and database files, and whether any kind of pop-up help feature could be implemented without using the graphics modes. Technical support is available beginning at 9:00 a.m. Pacific time. The support staff took several house to return my call, but they were well informed and helpful.

The only new feature added between versions 2.0, 2.1, and 2.11 was the capability to pass values to .BAT files. The manual says that external values may not be passed to .BAT programs, but the technical support staff says the manual is outdated on this point. The rest of the changes have been bug fixes. Version 2.2, to be released soon, will fix a bug that keeps one of the examples in the manual from working properly.

Conclusion

VP-Expert has deservedly been the leader in the mid-priced shell market for several years. Improvements in the user interface and runtime license will help keep it in the lead. The basic VP-Expert package is commendably complete. Even many of the high-priced shells come without the capability to read and write database and spreadsheet files. These programs cost even more than they seem to at first, because users find that they need to purchase additional components in order to develop their expert system.

Wish List

I consider the omission of any type of hypertext help-screen capability for non-graphics applications to be the most serious deficit in this version. With hypertext, users are given additional information only when they need it. Suppose, for example, our expert system for preservation decisions is intended for use by staff at branch libraries and the circulation desk. Some of the staff will know how to tell if pages are brittle, but others will not. It would be helpful to be able to give information on testing for brittle pages only to users who need it.

The publisher intends the "Induce" feature of VP-Expert to be an aid in the initial creation of a knowledge base, and "Induce" is a great help at this stage. However, if the induction table could include all of the qualifiers that can be included in rules (such as the greater-than and less-than symbols), then the "Induce" feature could be used throughout development. This would be a great advantage, because induction tables are much easier to create and check than a set of rules. In addition, if the "Induce" command could include preferred forms of the "Ask" statements

(such as "What is the material type?" to replace "What is the value of MaterialType?"), it would be much easier for a developer to work with end-users during development of an expert system.

PHOTO : Figure 1. VP-Expert Induction Table.

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```
        $0.65    0.120 DialUnits File636
   $0.65  Estimated cost File636
        $0.21    0.041 DialUnits File647
   $0.21  Estimated cost File647
        $0.15    0.037 DialUnits File674
   $0.15  Estimated cost File674
        $0.21    0.037 DialUnits File696
   $0.21  Estimated cost File696
        OneSearch, 30 files,  2.974 DialUnits FileOS
   $1.40  TELNET
  $19.25  Estimated cost this search
  $19.28  Estimated total session cost   3.056 DialUnits


Logoff: level 02.19.00 D  11:20:50


You are now logged off
```

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```
Set       Items   Description
S1            0   (EXPERT? ? OR TRAINEE? ?)()(ASSIGNED(1N)VALUE? ?)
S2           10   (EXPERT? ? OR TRAINEE? ?)()(ASSIGN??(2N)VALUE? ?)
S3            6   RD (unique items)
```

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```
? ds

Set      Items    Description
S1          2     AU='STANFIELD G R'
S2          2     AU='BASSMAN E'
S3          3     S1:S2
? show files
File 347:JAPIO Oct 1976-2003/May(Updated 030902)
         (c) 2003 JPO & JAPIO
File 350:Derwent WPIX 1963-2003/UD,UM &UP=200356
         (c) 2003   Thomson Derwent
File 371:French Patents 1961-2002/BOPI 200209
         (c) 2002 INPI.  All rts. reserv.
```

? ds

```
Set      Items    Description
S1           1    AU='STANFIELD GREGORY R'
S2      182098    ASSESS? OR EVALUATE? OR GRADE? OR ANALYZE? OR ANALYSE?
S3        7026    ASSIGN?(3N)(VALUE? ? OR GRADIENT? ?)
S4        3483    STUDENT? ? OR TRAINEE? ? OR BEGINNER? ?
S5       25260    EXPERT OR EXPERIENCED OR TEACHER
S6      418455    PROPERT? OR CHARACTERISTIC? ? OR ATTRIBUTE? ? OR VARIABLE?
S7          33    S2 AND S3 AND S4 AND S5 AND S6
S8     1091382    MUSIC? OR ART? ? OR PHOTOGRAPH? OR DANCE?
S9          33    S7 AND S8
```
? show files
File 348:EUROPEAN PATENTS 1978-2003/Aug W04
          (c) 2003 European Patent Office

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```
? ds

Set     Items     Description
S1    3346468     STUDENT? ? OR TRAINEE? ? OR BEGINNER? ?
S2   10308649     ASSESS? OR EVALUATE? OR GRADE? OR ANALYZE? OR ANALYSE? OR -
                     CLASSIF?
S3      31583     ASSIGN?(4N)(VALUE? ? OR GRADIENT?)
S4    6855875     EXPERT? OR EXPERIENCED OR TEACHER? ?
S5   10937974     PROPERT? OR CHARACTERISTIC? ? OR ATTRIBUT? OR VARIABL?
S6    7128903     MUSIC OR MEDIA
S7       3940     S1 AND S3
S8     455435     S2 AND S4 AND S5
S9        360     S6 AND S7 AND S8
S10       273     RD (unique items)
S11       236     S10 AND PY<2002
S12       121     S11 NOT TEACHER?
S13        51     S12 NOT EXPERIENCED
S14       159     (TRAIN?(4N)(ASSIGN? OR CLASSIF?))(S)MEDIA
S15       141     S14 AND PY<2002
S16       101     RD (unique items) *none relevant*
? show files
File   1:ERIC 1966-2003/Aug 13
          (c) format only 2003 The Dialog Corporation
File   7:Social SciSearch(R) 1972-2003/Aug W5
          (c) 2003 Inst for Sci Info
File  11:PsycINFO(R) 1887-2003/Aug W5
          (c) 2003 Amer. Psychological Assn.
File  35:Dissertation Abs Online 1861-2003/Aug
          (c) 2003 ProQuest Info&Learning
File  47:Gale Group Magazine DB(TM) 1959-2003/Aug 26
          (c) 2003 The Gale group
File  88:Gale Group Business A.R.T.S. 1976-2003/Sep 05
          (c) 2003 The Gale Group
File 121:Brit.Education Index 1976-2003/Q2
          (c) 2003 British Education Index
File 141:Readers Guide 1983-2003/Jul
          (c) 2003 The HW Wilson Co
File 142:Social Sciences Abstracts 1983-2003/Jul
          (c) 2003 The HW Wilson Co
File 436:Humanities Abs Full Text 1984-2003/Jul
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File 437:Education Abstracts 1983-2003/Jul
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File  18:Gale Group F&S Index(R) 1988-2003/Sep 04
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File  20:Dialog Global Reporter 1997-2003/Sep 05
          (c) 2003 The Dialog Corp.
File  80:TGG Aerospace/Def.Mkts(R) 1986-2003/Sep 04
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File 148:Gale Group Trade & Industry DB 1976-2003/Sep 04
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File 160:Gale Group PROMT(R) 1972-1989
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File 256:SoftBase:Reviews,Companies&Prods. 82-2003/Aug
          (c)2003 Info.Sources Inc


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File 275:Gale Group Computer DB(TM) 1983-2003/Sep 04
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File 481:DELPHES Eur Bus 95-2003/Aug W5
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File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
          (c) 2002 The Gale Group
File 621:Gale Group New Prod.Annou.(R) 1985-2003/Sep 04
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File 635:Business Dateline(R) 1985-2003/Sep 04
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File 636:Gale Group Newsletter DB(TM) 1987-2003/Sep 04
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File 647:CMP Computer Fulltext 1988-2003/Aug W2
          (c) 2003 CMP Media, LLC
File 674:Computer News Fulltext 1989-2003/Aug W5
          (c) 2003 IDG Communications
File 696:DIALOG Telecom. Newsletters 1995-2003/Sep 04
          (c) 2003 The Dialog Corp.
File 21:NCJRS 1972-2003/Aug
          (c) format only 2003 The Dialog Corporation
File 49:PAIS Int. 1976-2003/Jul
          (c) 2003 Public Affairs Information Service
File 94:JICST-EPlus 1985-2003/Aug W5
          (c)2003 Japan Science and Tech Corp(JST)
File 144:Pascal 1973-2003/Aug W4
          (c) 2003 INIST/CNRS
File 163:Ageline(R) 1965-2003/Aug
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File 171:Criminal Justice Periodical Index 1975-1998/Dec
          (c) 1998 ProQuest
File 468:Public Opinion 1940-2003/Aug W5
          (c) 2003 Roper Ctr for Pub Opinion Res
File 482:Newsweek 2000-2003/Aug 13
          (c) 2003 Newsweek, Inc.
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File    7:Social SciSearch(R) 1972-2003/Aug W5
          (c) 2003 Inst for Sci Info
File   11:PsycINFO(R) 1887-2003/Aug W5
          (c) 2003 Amer. Psychological Assn.
File   35:Dissertation Abs Online 1861-2003/Aug
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File   47:Gale Group Magazine DB(TM) 1959-2003/Aug 26
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File   88:Gale Group Business A.R.T.S. 1976-2003/Sep 05
          (c) 2003 The Gale Group
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          (c) 2003 British Education Index
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          (c) 2003 The Dialog Corp.
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          (c) 2003 The Gale Group
File  148:Gale Group Trade & Industry DB 1976-2003/Sep 04
          (c)2003 The Gale Group
File  160:Gale Group PROMT(R) 1972-1989
          (c) 1999 The Gale Group
File  256:SoftBase:Reviews,Companies&Prods. 82-2003/Aug
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File  275:Gale Group Computer DB(TM) 1983-2003/Sep 04
          (c) 2003 The Gale Group
File  481:DELPHES Eur Bus 95-2003/Aug W5
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File  583:Gale Group Globalbase(TM) 1986-2002/Dec 13
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